V. DESIGN REQUIREMENTS

Design requirements for thoroughfares vary according to the desired capacity and level of service to be profided. Thus, universal standards to be followed in the design of thoroughfares are not practical and each street section must be individually analyzed.

The level of service is a function of the ease of movement experienced by motorists using the facility. The ability of a motorist to drive at a desired speed is dependent upon the physical design of the street; the amount and character of traffic control devices; the influence and character of traffic generated by abutting property; and imposed speed restrictions. The level of service is generally indicated by the overall travel speed[3] experienced by traffic.

Recommended minimum levels of service are generally as given in Table 4. The overall speeds given should be attainable when all components of the urban thoroughfare system are integrated into a network which conforms to the major travel desires of the street users. The level of service to be provided by a specific highway improvement should be compatible with both the desires of the drivers and the economic aspects of the proposed improvement.

There are many factors which influence the traffic capacity of a street; i.e. the number of vehicles that a street can accommodate. Typical capacities for various street cross sections are related here for general guidance. Table 5 indicates typical capacity standards for various types of facilities in terms of vehicles per hour per lane and for a 24-hour period. These design volumes are based on average traffic characteristics including 20 percent turning movements at principal intersections, 10 percent truck volumes, and approximately 50 percent green time at signalized intersections. The 24-hour volumes assume that the peak hour comprises 10 percent of the daily total with 60-70 percent of the peak hour traffic in one direction.

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[3]The overall speed is the total distance traveled divided by the total time required, including all traffic delays.